

COMMUNICATION AND NETWORKING RISER ECR FORM

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Title of the Change: Clarification on AC '97 Codec Disabling and Demotion Requirements

Specification Title and Version: CNR Specification, Version 1.0

Reason for Change:

As development of CNR cards has progressed since the release of the CNR specification, there have been occasions where the CNR cards have been configured in such a way as to cause errors and signals contention to occur on the AC '97 Interface. Clarifying the requirements around disabling and demoting codecs will help to solve this potential issues.

Description of Change:

This adds additional requirements that CNR reference designs and production CNR cards contain no jumpers which directly change the AC '97 codec address or SDATA_IN signal used. As was intended, the CDC_DN_ENAB# signal provides adequate information to control circuitry which can automatically disable and demote codecs as per the rules put forth in the CNR Specification. By requiring that the disabling and demotion be performed through an electronics means, the potential for contention of the AC '97 Interface is nearly (if not completely) eliminated.

1. In Section 3.3.1.1 the following text (in red) will be added:

The CNR AC '97 Codec Disable and Demotion Rules are:

1. A CNR with a single AC '97 codec **must** always demote itself to the next available address on the AC'97 Interface, and switch to the next available SDATA_IN signal when the CDC_DN_ENAB# signal is in an active low state.
2. A CNR AC '97 codec **must** never change its address or SDATA_IN line used when the CDC_DN_ENAB# signal is in a high state.
3. All CNR reference designs and CNR production boards **must** not use jumpers to implement the AC '97 codec disabling and demotion rules. Instead the CNR board **must** use either build time stuffing options or electronic circuitry which monitors the state of the CDC_DN_ENAB# signal to disable and demote the AC '97 codecs located on the CNR board.

2. In Section 8 the following text (in red) will be added:

4. The CNR and AC '97 component specifications allows for either +3.3 V or +5 V digital I/O. Care **must** be taken to ensure that both sides of the CNR connector are driven from compatible voltage rails.
5. Maximum trace capacitance of any LAN Interface trace on the CNR board **must** not exceed 6 pF. This capacitance does not include the PLC/PHY device input or output capacitance or the capacitance associated with the CNR connector.
6. All CNR reference designs and CNR production boards **must** not use jumpers to implement the AC '97 codec disabling and demotion rules. Instead the CNR board **must** use either build time stuffing options or electronic circuitry which monitors the state of the CDC_DN_ENAB# signal to disable and demote the AC '97 codecs located on the CNR board.